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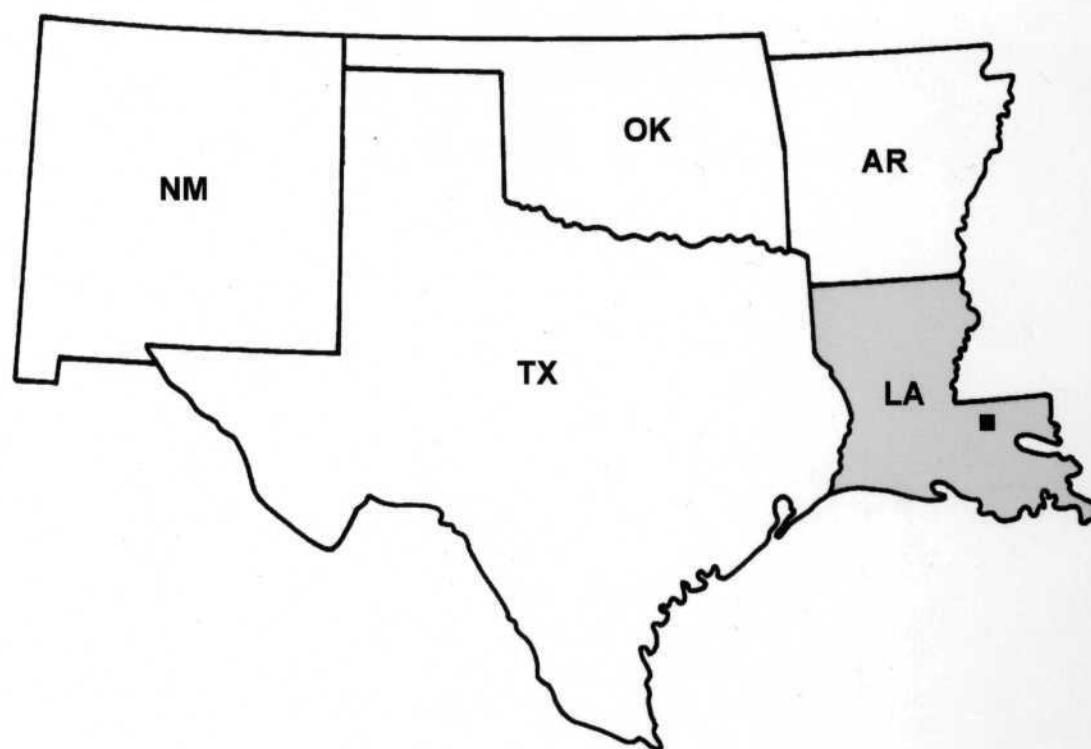
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November 2004

Research and Development



AERIAL PHOTOGRAPHIC ANALYSIS OF DEVIL'S SWAMP LAKE SITE Scotlandville, Louisiana

EPA Region 6



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AERIAL PHOTOGRAPHIC ANALYSIS OF
DEVIL'S SWAMP LAKE SITE

Scotlandville, Louisiana

by

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Contract No. 68-D-00-267

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LAS VEGAS, NEVADA 89193-3478

NOTICE

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ABSTRACT

This report presents the results of an aerial photographic analysis of the Devil's Swamp Lake site (CERCLIS ID# LAD981155872) located in East Baton Rouge Parish, Louisiana approximately 8 kilometers (5 miles) northwest of Scotlandville, Louisiana (Figures 1 and 2). The site includes Devil's Swamp Lake and portions of the Rollins Environmental Services (LA), Inc., (RES) facility discharge ditch into the lake. The report covers the twenty-year period from 1968 to 1988 and includes nine dates of photography. This report was prepared at the request of the U.S. Environmental Protection Agency (EPA) Region 6 Office to support field investigators in identifying sources and pathways of contamination entering Devil's Swamp Lake. This Remote Sensing support was conducted under their Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program.

The results of this analysis document show that by 1970 both natural drainageways and excavated drainage ditches carried discharges from the RES facility west and southwest into Devil's Swamp. Conditions of environmental significance at the RES facility included spillage, leakage, and discharges that could have been potential sources of contamination entering the drainage ditches. By 1975, Devil's Swamp Lake was formed in Devil's Swamp southwest of the RES facility. The lake received surface drainage from the RES facility and outfall plumes into Devil's Swamp Lake were observed as early as 1982. An excavated ditch transported drainage and discharges away from the RES facility and into Devil's Swamp Lake. The drainage ditch received drainage and discharges from the RES facility through a culvert under West Cheatham Lane and from runoff leaving the RES facility west landfill area. A system of ditches within the RES facility carried surface drainage north and south toward the culvert under West Cheatham Lane. By 1980 another ditch had been excavated along the southern perimeter of the site that appeared to carry drainage and discharges from the offsite Allied Chemical facility into the Devil's Swamp Lake.

The EPA Environmental Sciences Division, Landscape Ecology Branch in Las Vegas, Nevada, prepared this report for the EPA Region Superfund Division in Dallas, Texas, and the EPA Office of Emergency and Remedial Response in Washington, D.C.

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INTRODUCTION

This report presents the results of an aerial photographic analysis of the Devil's Swamp Lake site (CERCLIS ID# LAD981155872) located in East Baton Rouge Parish, Louisiana approximately 8 kilometers (5 miles) northwest of Scotlandville, Louisiana (Figure 1). The site includes Devil's Swamp Lake, adjacent lands to the lake in Devil's Swamp, and a portion of the Rollins Environmental Services (LA), Inc., (RES) facility discharge ditch into the lake (Figure 2). The report covers the twenty year period from 1968 to 1988 and includes nine dates of photography. This analysis identifies potential sources and pathways of contamination entering Devil's Swamp Lake, specifically past spillage, leakage, or discharges from the RES facility, and will aid EPA investigators at the Region 6 Office of the U.S. Environmental Protection Agency (EPA) under their Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program.

Most of the site is situated adjacent to a bluff overlooking the Mississippi River flood plain, Devil's Swamp, at an approximate elevation of 23 meters (75 feet) above sea level. The site is also adjacent to Devil's Swamp, a riparian wetland within a meander along the bank of the Mississippi River. Devil's Swamp is drained by Bayou Baton Rouge which trends south and empties into the adjacent Mississippi River.

The dredged shipping channel of Baton Rouge Harbor has been cut into Devil's Swamp and a dredged turning basin of this harbor is located along the south side of irregularly shaped man-made Devil's Swamp Lake. Devil's Swamp Lake was created between 1972 and 1975 by the blocking of natural drainage patterns with the deposition of dredging sediments. These were used as embankment fill for reinforcing the levee along the north side of the Baton Rouge Harbor Turning Basin. Drainage from Bayou Baton Rouge, surface runoff from the industrialized area east of the swamp, and high water levels from the Mississippi river all contribute to the water dynamics within the Devil's Swamp and Devil's Swamp Lake.

This analysis included a review of historical black-and-white, color, and color infrared aerial photographs. Due to the photographic resolution limits of the higher altitude photographs obtained for this analysis, only very large features were discernible on some photographs. The complexity and density of many features within the facility did not permit annotating every feature of environmental interest. Photographic enlarged figures of subareas of the site are included in the report to better show details of some of these observed features. Several features are annotated for reference locations and may not be discussed or denoted on each date of photography. The numerical designators assigned to operational units and treatment/disposal cells used in this report are derived from and are generally consistent with EPA collateral sources (Figures 3, 4, 5, and 6). These reference figures are included in this photographic analysis to aid the reader in identifying feature designators. Environmentally significant features or conditions found on the RES facility but not depicted on the photo figure are discussed in the accompanying narrative. Features identified through collateral information are marked by an asterisk on their first appearance. The observed boundaries of the treatment/disposal cells were not constant over the time period of this analysis and many of these cells were removed and/or subsumed by the establishment of later cells. Polygons annotated around features are used to highlight rather than precisely circumscribe those features. Waste disposal cells are constructed, used, and filled during the period of this analysis. Numerical designators are assigned to observed cell when possible, based on collateral information, and used as approximate reference locations in this report

The narrative on the RES facility is divided into discussions on the various operational sections of the facility. The presence of chemical or biological treatment areas was determined by structures and features associated with the treatment methods identified through collateral information. The following sections of the RES facility were observed. The chemical treatment area* (CTA*), which includes the neutralization* and acid* basins, is situated at the north end of the facility. The process and incineration area* (PIA*), which includes the incinerator*, is situated in the central portion of the facility. The biological stabilization and treatment area* (BSTA*), which includes the biological stabilization and treatment and the aeration

stabilization basins*, is situated south of the process and incineration area. The south landfill area* (SLF*), which includes cells* that were eventually covered with soil, is situated south of the biological stabilization and treatment area. The west landfill area* (WLF*), which also includes cells that were eventually covered with soil, is situated west of the process and incineration area. The landfarm area* (LFM*), which includes large landfarm plots*, is situated east of the biological stabilization and treatment area. The wastewater treatment plant* (WWTP*), which includes the cluster of clarifying tanks*, is situated east of West Cheatham Lane.

By 1980 the Rollins Environmental Services (LA), Inc., facility occupied approximately 71 hectares (175 acres) in the center of the drawing (Figures 5, 12). This facility was covered in an EPA report prepared in September 1984, "Aerial Photographic Analysis of a Waste Disposal Site, Baton Rouge, Louisiana, TS-AMD-83045S" and contained aerial photography acquired July 27, 1983. This 2004 report references the earlier report but does not contain the 1983 photography.

The results of this analysis document that by 1970 both natural drainage ways and excavated drainage ditches carried discharges from the RES facility west and southwest into Devil's Swamp. Conditions of environmental significance at the RES facility included spillage, leakage, and discharges that could have been potential sources of contamination entering the drainage ditches. By 1975, Devil's Swamp Lake was formed in Devil's Swamp southwest of the RES facility. The lake received surface drainage from the RES facility and outfall plumes into Devil's Swamp Lake were observed as early as 1982. An excavated ditch transported drainage and discharges away from the RES facility and apparently into Devil's Swamp Lake. The drainage ditch received drainage and discharges from the RES facility through a culvert under West Cheatham Lane and from runoff leaving the RES facility west landfill area. A system of ditches within the RES facility carried surface drainage north and south toward the culvert under West Cheatham Lane. By 1980 another ditch had been excavated along the southern perimeter of the site that carried drainage and discharges from the offsite Allied Chemical facility into Devil's Swamp Lake.

A Glossary, defining features or conditions identified in this report, follows the Photographic Analysis section. Sources for all maps, aerial photographs, and collateral data used in the production of this report are listed in the References section. A list of all aerial photographs that were identified and evaluated for potential application to this study can be obtained by contacting the EPA Work Assignment Manager. Historical aerial photographs used in the analysis of this site have been digitally scanned and printed for use in this report. A transparent overlay with interpretative data is affixed to each of the digital prints. See the Methodology section for a discussion of the scanning and printing procedures.

The EPA Environmental Sciences Division, Landscape Ecology Branch in Las Vegas, Nevada, prepared this report for the EPA Region 6 Superfund Division in Dallas, Texas, and the EPA Office of Emergency and Remedial Response in Washington, D.C.

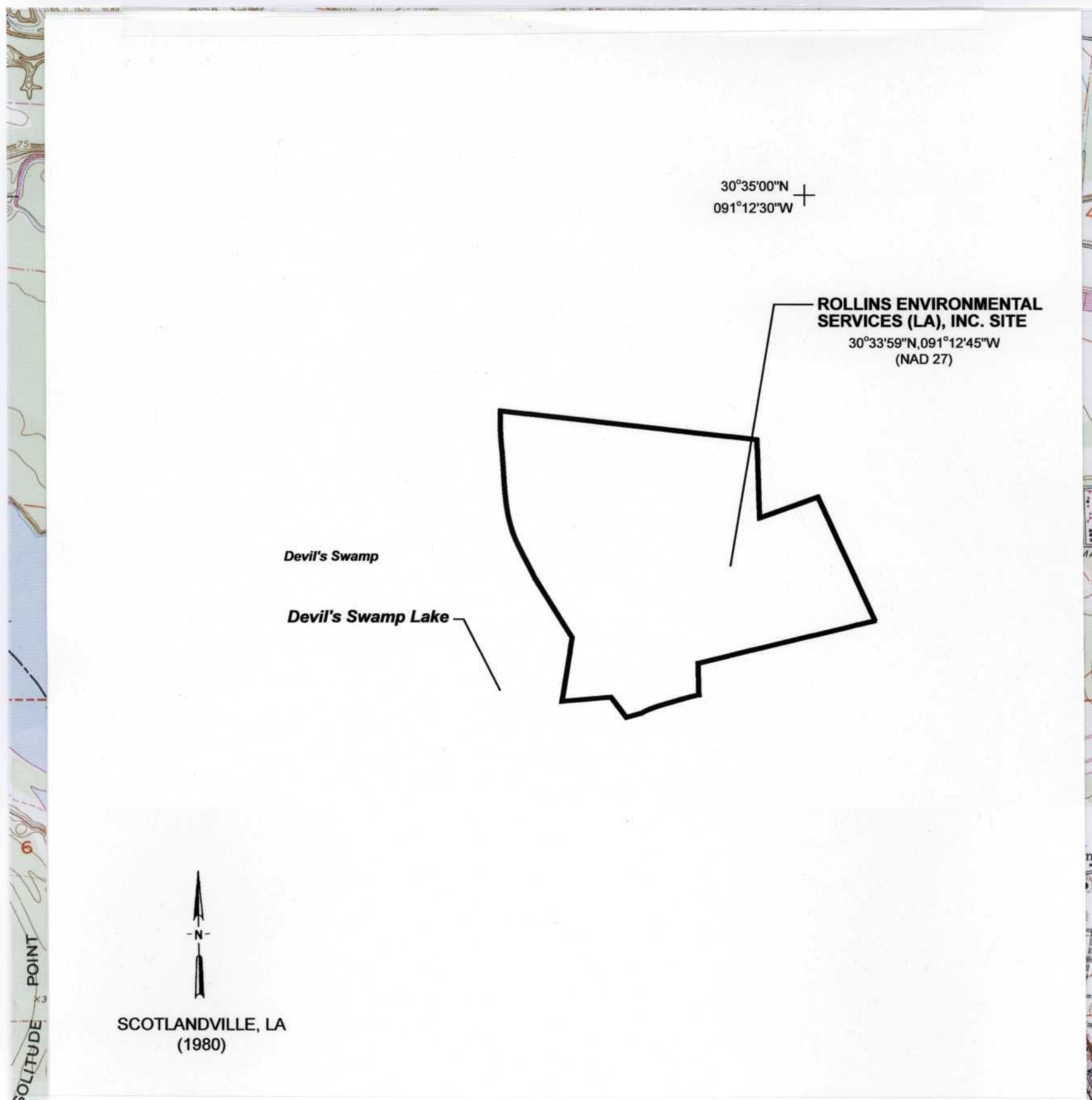


Figure 2. Local study area location map, Scotlandville, Louisiana (USGS, 1980).
Approximate scale 1:24,000.

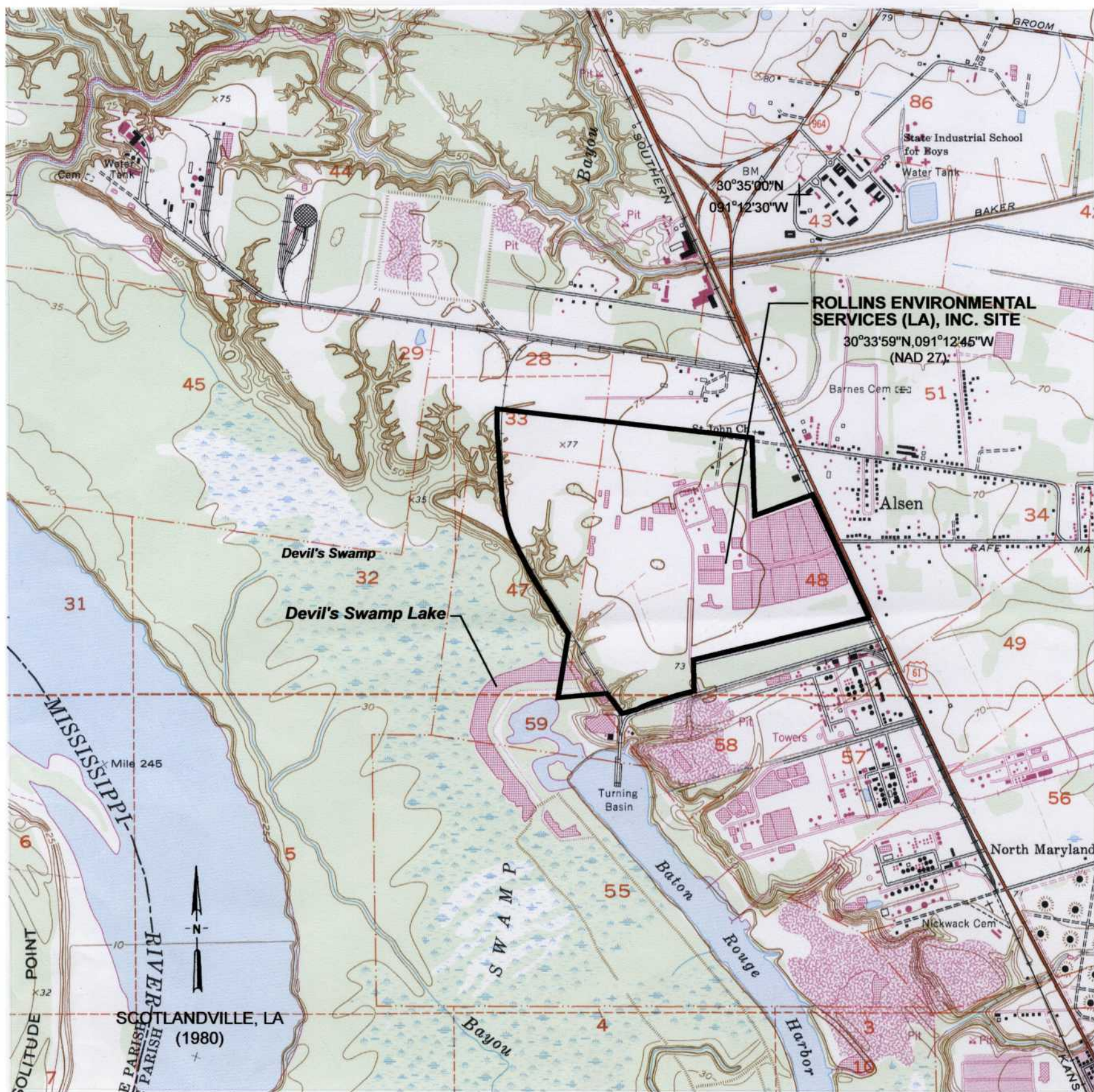


Figure 2. Local study area location map, Scotlandville, Louisiana (USGS, 1980). Approximate scale 1:24,000.



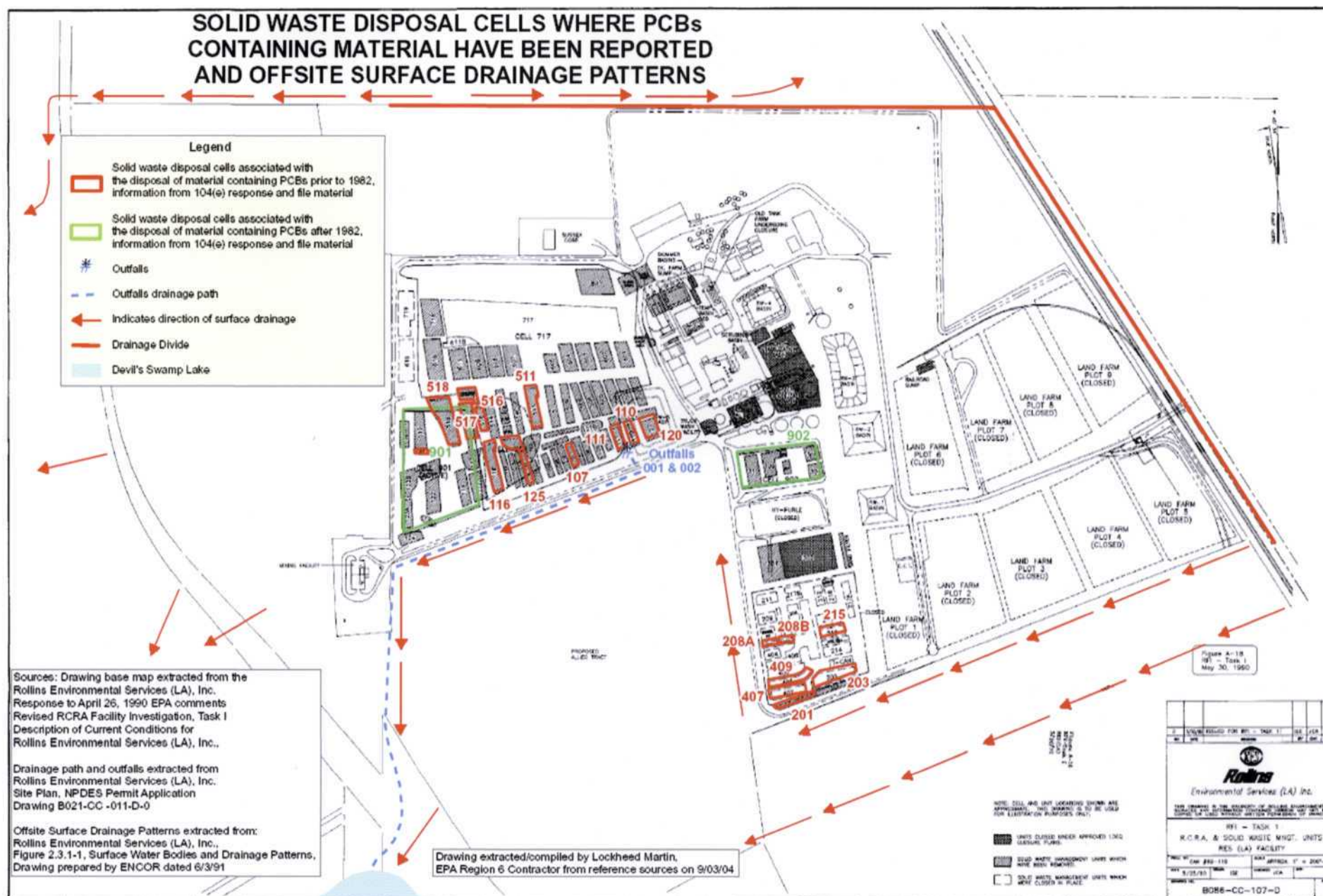


Figure 4. Rollins Environmental Services (LA), Inc., R.C.R.A. & Solid Waste Mngt. Units (EPA, 2004).

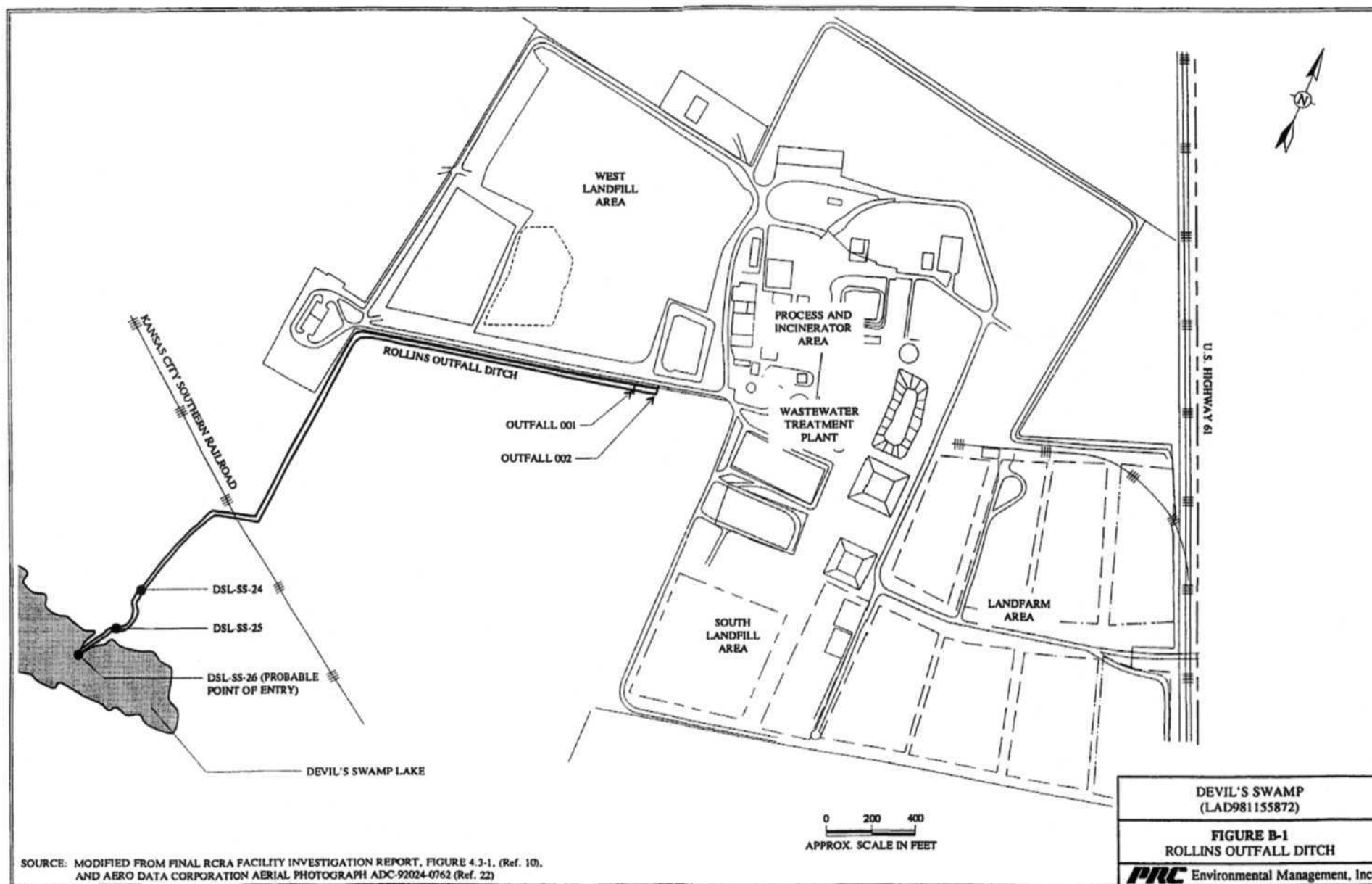


Figure 5. Devil's Swamp Lake, Rollins Outfall Ditch (EPA, 2004).

METHODOLOGY

This report was prepared using a standard methodology that includes the following steps:

- data identification and acquisition,
- photographic analysis and interpretation, and
- graphics and text preparation.

These steps are described below. Subsections also address details related to specific kinds of analyses that may be required to identify environmental features such as surface drainage and wetlands. All operational steps and processes used to perform this work (including data identification and acquisition, photographic analysis and interpretation, and graphics and text preparation) adhere to strict QA/QC guidelines and standard operating procedures (SOPs). These guidelines and procedures are documented in the Master Quality Assurance Project Plan (QAPP) prepared for Remote Sensing Support Services Contract No. 68-D-00-267 (LMS, 2003).

Data identification and acquisition included a search of government and commercial sources of historical aerial film for the study area. Photographs with optimal spatial and temporal resolution and image quality were identified for acquisition. In addition, U.S. Geological Survey (USGS) topographic maps were obtained to show the study area location and to provide geographic and topographic context.

To conduct this analysis, the analyst examined diapositives (transparencies) of historical aerial photographs showing the study area. Diapositives are most often used for analysis instead of prints because the diapositives have superior photographic resolution. They show minute details of significant environmental features that may not be discernible on a paper print.

A photographic analyst uses a stereoscope to view adjacent, overlapping pairs of diapositives on a backlit light table. In most cases, the stereoscope is capable of various magnifications up to 60 power. Stereoscopic viewing involves using the principle of parallax (observing a feature from slightly different positions) to observe a three-dimensional representation of the area of interest. The stereoscope enhances the photo interpretation process by allowing the analyst to observe vertical as well as horizontal spatial relationships of natural and cultural features.

The process of photographic analysis involves the visual examination and comparison of many components of the photographic image. These components include shadow, tone, color, texture, shape, size, pattern, and landscape context of individual elements of a photograph. The photo analyst identifies objects, features, and "signatures" associated with specific environmental conditions or events. The term "signature" refers to a combination of components or characteristics that indicate a specific object, condition, or pattern of environmental significance. The academic and professional training, photo interpretation experience gained through repetitive observations of similar features or activities, and deductive logic of the analyst as well as background information from collateral sources (e.g., site maps, geologic reports, soil surveys) are critical factors employed in the photographic analysis.

The analyst records the results of the analysis by using a standard set of annotations and terminology to identify objects and features observed on the diapositives. Significant findings are annotated on overlays attached to the photographic or computer-reproduced prints in the report and discussed in the accompanying text. Annotations that are self-explanatory may not be discussed in the text. The annotations are defined in the legend that accompanies each print and in the text when first used.

Objects and features are identified in the graphics and text according to the analyst's degree of confidence in the evidence. A distinction is made between certain, probable, and possible identifications. When the analyst believes the identification is unmistakable (certain), no qualifier is used. Probable is used when a limited number of discernible characteristics allow the

analyst to be reasonably sure of a particular identification. Possible is used when only a few characteristics are discernible, and the analyst can only infer an identification.

The prints in this report have been reproduced, either by photographic or computer methods, from the original film. Reproductions are made from the original film and may be either contact (the same size) prints or enlargements, depending on the scale of the original film. Any computer-produced prints used in this report are generated from scans of the film at approximately 1,300 dots per inch (dpi) and printed at 720 dpi. Although the reproductions allow effective display of the interpretive annotations, they may have less photographic resolution than the original film. Therefore, some of the objects and features identified in the original image and described in the text may not be as clearly discernible on the prints in this report.

Study area boundaries shown in this report were determined from aerial photographs or collateral data and do not necessarily denote legal property lines or ownership.

Color Infrared Photographs

Some photographs used for this analysis were made from color infrared film. Normal color film records reflected energy in the blue, green, and red portions of the electromagnetic spectrum. Color infrared film differs in that it is sensitive not only to reflected blue, green, and red energy, but also to reflected energy in the infrared portions of the electromagnetic spectrum; however, the blue energy is filtered out and only the green, red, and infrared energy is recorded. When color infrared film is processed, it displays "false" colors that do not correspond with the true colors of the features photographed. For example, features that are highly reflective in the infrared portion of the spectrum, such as healthy vegetation, appear red to magenta on color infrared film. The false color displayed by a feature is produced in accordance with the proportions of green, red, and infrared energy it reflects. These proportions are referred to as the "spectral reflectance characteristics" of the feature. To interpret the true color of a particular feature accurately from color infrared film, a knowledge of the spectral reflectance

characteristics of that feature is required. This information is not readily available for the majority of features identified in this report. Therefore, unless otherwise indicated, no attempt has been made to interpret the true colors of the features identified on the color infrared film analyzed for this report.

Surface Drainage

The surface drainage analysis produced for this report identifies the direction and potential path that a liquid spill or surface runoff would follow based on the topography of the terrain and the presence of discernible obstacles to surface flow. The analyst determines the direction of surface drainage by stereoscopic analysis of the aerial photographs and by examining USGS topographic maps. Site-specific surface drainage patterns are annotated on the map or photo overlay. Where the direction of subtle drainage cannot be determined, an indeterminate drainage line symbol is used. Regional surface flow is ascertained from the USGS topographic maps.

PHOTOGRAPHIC ANALYSIS

SEPTEMBER 27, 1968 (FIGURE 7)

This 1968 photograph shows the condition of the area later occupied by Rollins Environmental Services (LA), Inc., (RES) facility prior to its industrial development. The RES site consists of an upland area and a swamp area along the east bank of the Mississippi River. The upland portion of the RES site is adjacent to the community of Alsen, Louisiana, and is occupied by farmsteads with associated houses and/or barns (FS) and agricultural land consisting of cropland and/or pasture. Woodlands are also observed within the site. Dense woodlands are observed along the western edge of the site and obscure a bluff along the east bank of the Mississippi River's flood plain and the adjacent Devil's Swamp.

The upland portion of the RES site is accessed from the east via U.S. Route 61 and farm roads connecting to both Old and New Rafe Meyer roads. It is also accessed from the south by West Cheatham Lane via J. Theron Brown Road or a small roadway parallel to J. Theron Brown Road.

Although the RES site is partially encircled by railroad lines and its east and west perimeters are bounded by railroad tracks, a railroad spur does not enter the site. The adjacent railroad lines instead serve the Baton Rouge Harbor Turning Basin situated near the southwest corner of the site. The site is bounded to the north by Old Rafe Meyer Road and to the south by a roadway north of and parallel to J. Theron Brown Road. Wetlands, located in the southwest portion of the site, extend to the west beyond the railroad line.

The railroad line along the west perimeter of the RES site follows the bluff along the Mississippi River bank. The observed natural drainage patterns within the site trend to the southwest and under the railroad line via culverts (CU). The drainage then enters the adjacent Devil's Swamp and eventually the

Mississippi River to the southwest. The presence of two of these probable culverts (CU-1 and CU-2) is detected by the observed terrain topography within the site but their locations are approximate due to vegetation obscuring the view. Culvert CU-3 near the southwest corner of the site is visible. The probable culverts are not annotated on every subsequent date of photography. The runoff patterns within the Devil's Swamp wetland are not generally distinct due to the water inundation from periodic high river levels; however, the meandering channel of Bayou Baton Rouge (not annotated) trends south through Devil's Swamp.

J. Theron Brown Road runs parallel to the south boundary of the RES site. This road and a parallel railroad serve a pier at the Baton Rouge Harbor Turning Basin situated southwest of the site. A large drainage ditch visible south of the road carries runoff from a probable chemical facility, located south of the site, directly into the Baton Rouge Harbor.

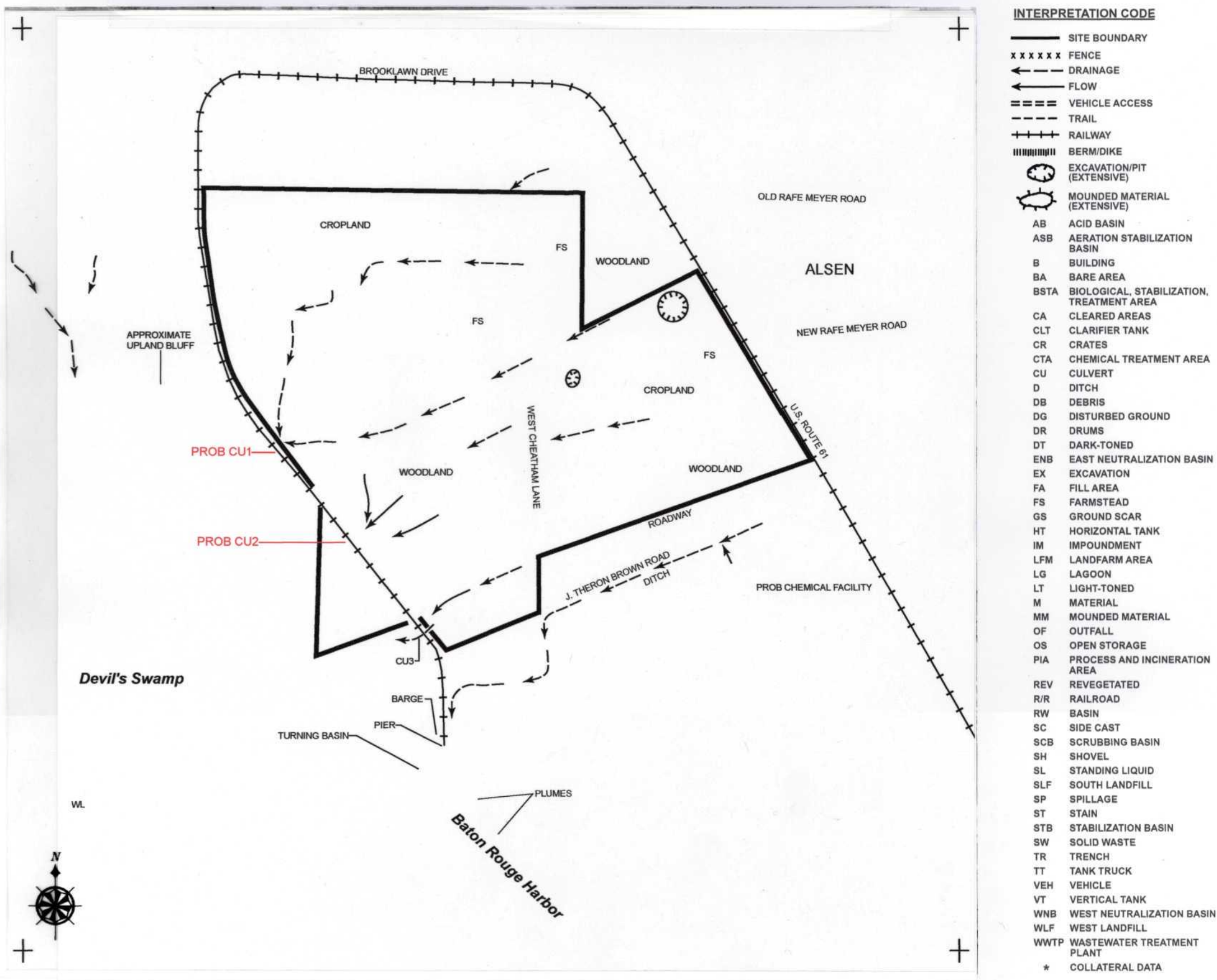


Figure 7. Rollins Environmental Services (LA), Inc. site, September 27, 1968.
Approximate scale 1:12,900.



INTERPRETATION CODE

—	SITE BOUNDARY
xxxxxx	FENCE
— — — — —	DRAINAGE
←	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+ + + + +	RAILWAY
	BERM/DIKE
⊗	EXCAVATION/PIT (EXTENSIVE)
⊗	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 7. Rollins Environmental Services (LA), Inc. site, September 27, 1968. Approximate scale 1:12,900.

NOVEMBER 24, 1970 (FIGURE 8)

Since 1968 the RES facility has been constructed to the west of the community of Alsen along U.S. Route 61. The facility appears operational and is accessed from U.S. Route 61 via an unpaved roadway aligned to New Rafe Meyer Road. The RES facility comprises several operational areas. These have been annotated with designators derived from EPA collateral sources. The following sections of the RES facility were observed.

- The chemical treatment area* (CTA*), which includes the neutralization* and acid* basins, is situated at the north end of the facility.
- The process and incineration area* (PIA*), which includes the incinerator*, is situated in the central portion of the facility.
- The biological stabilization and treatment area* (BSTA*), which includes the biological stabilization and treatment and the aeration stabilization basins*, is situated south of the process and incineration area.
- The south landfill area* (SLF*), which includes cells* that were eventually covered with soil, is situated south of the biological stabilization and treatment area.
- The west landfill area* (WLF*), which also includes cells that were eventually covered with soil, is situated west of the process and incineration area.
- The landfarm area* (LFM*), which includes large landfarm plots*, is situated east of the biological stabilization and treatment area.
- The wastewater treatment plant* (WWTP*), which includes the cluster of clarifying tanks*, is situated east of West Cheatham Lane.

Each section of the RES facility is not discussed on subsequent dates of photography unless significant environmental conditions relevant to sources and pathways of contamination entering the drainage leaving the RES facility are discerned.

The natural drainage patterns noted around the RES facility trend southwest toward Devil's Swamp via probable culverts (CU1, CU2) under the railroad along the west perimeter of the site. The termini of these natural drainageways are obscured by the dense woodland along the bluff adjacent to the swamp.

A drainage ditch (D1) has been dug between the RES facility and Devil's Swamp. The mound of light-toned sidecast (SC) is noted along the rim of the ditch and reveals the ditch has been excavated. The contents of the ditch appear to eventually reach Devil's Swamp via probable culvert (CU2). Within the RES facility ditch D1 receives drainage from two additional ditches (D2N and D2S) that flow perpendicular to ditch D1. These tributary ditches are located east of West Cheatham Lane.

The CTA, the west neutralization basin* (WNB*) and the east neutralization basin* (ENB*) are visible and both contain liquid. A group of six adjacent lagoons (LG), only three of which appear to contain liquid (not annotated), is noted to the south of the WNB and the ENB. A group of sixteen processing/storage vertical tanks (VT, not all annotated) is to the east of the group of lagoons. This group of processing/storage vertical tanks will be simply referred to as vertical tanks on subsequent dates of photography unless observed conditions change. Drainage (not annotated) from this portion of the site appears to trend southeast toward ditch D2N.

Within the PIA are observed buildings (B, not all annotated), an incinerator* from which a smoke plume is visible, and an open storage area (OS). Drainage (not annotated) from this portion of the site appears to flow south into the section of ditch D1 located on the east side of West Cheatham Lane.

Within the BSTA a stabilization basin* (STB*), a scrubbing basin* (SCB*), and an aeration stabilization basin* (ASB*) are observed. Drainage (not annotated) from this portion of the site appears to flow east into the section to ditch D2N. Liquid holding cells (Hy-Purle*, 302*) are visible to the south of the STB. A smaller liquid holding feature is noted near the southwest corner of Cell 302; this feature appears to occupy the location of Cell 211*. Drainage (not annotated) from this portion of the site appears to flow east into the section of ditch D2S.

The WLF does not appear to have been established and no open pits are discerned. This area includes a cleared area (CA1) and an open storage area with possible vehicles or containers (not annotated). Visible ground scars (GS) indicate earthmoving activity. Drainage (not annotated) from this portion of the site appears to enter ditch D1.

Within the LFM area are three deposits of light-toned material (LTM) and five large mounds of light-toned material (LTMM) are visible along the access road. The source of these light-toned deposits is not evident. Drainage from this section of the site trends west toward ditches D2N and D2S.

The clear area (CA2) observed south of ditch D1 and the clear area (CA3) observed south of the access road into the RES facility both contain ground scars (GS). No waste disposal activity is discerned at these locations. These areas will not be discussed on subsequent dates of photography unless waste disposal activity is noted.





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—	SITE BOUNDARY
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SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 8. Rollins Environmental Services (LA), Inc. site, November 24, 1970. Approximate scale 1:12,900.

APRIL 1, 1972 (FIGURE 9)

February and April medium altitude photographs were reviewed and provide increased photo resolution compared to the 1970 photograph. The significant results from the analysis of the February photograph are denoted on the April photo figure. An enlarged section of the photograph that shows that portion of the site occupied by the RES facility has been provided to better show detail of features observed within the RES facility.

Two pipes are discerned emerging from the West Cheatham Lane culvert that discharge into ditch D1. The section of D1 east of this culvert continues to receive inflows from ditches D2N and D2S. A tributary ditch that empties into ditch D2N is observed running along the south side of a group of fifteen horizontal storage tanks (HT) on the northeast side of the PIA. These tanks have no secondary containment, thus leakage or spillage from these storage tanks could enter ditch D2N via this tributary ditch.

Potential sources of contamination are noted at the CTA. The group of six adjacent lagoons (1* through 6*) all appear to contain dark-toned liquid. The presence of bottom lining material could not be discerned in any of these lagoons. A secondary containment berm is now discerned around the group of twenty vertical tanks and dark-toned spillage/leakage is visible within this structure. An acid basin* (AB*) containing a light-toned liquid is visible along the west side of the secondary containment berm for these vertical storage tanks. The presence of bottom lining material could not be discerned in the AB.

Within the PIA a smoke plume is observed over the incinerator (not annotated) indicating it remains operational. Containers and possible tank trucks were discerned at a large open storage area west of the incinerator. The spillage (SP) or a discharge observed from four of these possible tank trucks, on the February photograph, flowed toward the incinerator.

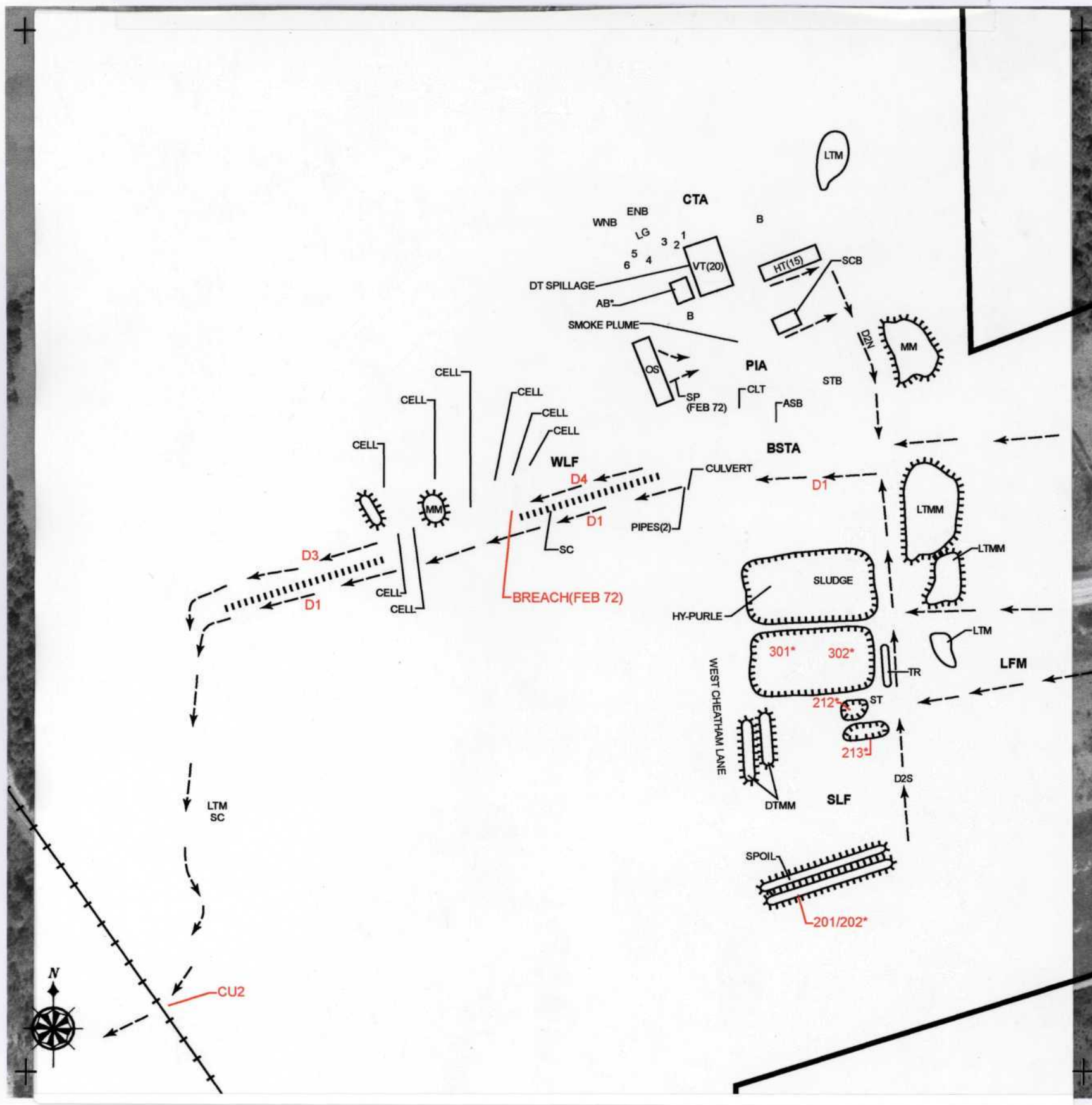
Within the BSTA, the large STB, SCB, and ASB appear operational. The improved resolution allows the discernment of one clarifying tank* (CLT) along the north side of ASB. The Hy-Purle cell and cells 301 and 302 appear to be

operational. The Hy-Purle cell appears to contain sludge while Cell 301 and Cell 302 contain a dark-toned liquid.

The SLF has been established south of Cells 301 and 302 where several cells (201/202*, 212*, and 213*) have been dug. The presence of bottom lining material could not be discerned in any of these cells. Two mounds of dark-toned material are visible to the southwest of Cell 301. A dark-toned ground stain is visible near the southeast corner of Cell 302. An open trench has been dug along the east side of Cell 302. Surface runoff (not annotated) from the SLF drains into ditch D2S and appears to flow north to the section of ditch D1 located on the east side of West Cheatham Lane.

The WLF has undergone significant earthmoving activity since 1970. The open storage area west of the PIA, noted in 1970, is no longer apparent. Several cells are discerned in this section of the RES facility. All of these cells contain dark-toned liquid or sludge and a presence of bottom lining material could not be discerned. Shallow segments of ditches D3 and D4 are discerned in this west landfill and flow southwest and parallel to the ditch D1. A breach in the berm along the north side of ditch D1 allows runoff from ditch D4 to enter ditch D1. This breach is best seen on the February photograph. Ditch D3 empties into ditch D1 at the westernmost extent of ditch D1, as ditch D1 changes flow direction from southwest to south. Light-toned sidecast is observed along the rim of the southern portion of ditch D1 perhaps indicating it has been re-excavated since 1970.

No discernible significant activity is noted at the landfarm* (LFM*) southeast of the PIA. The deposits of light-toned material and mounds are still visible along the access roadway into the RES facility. Since 1970 one of the mounds appears to have become partially revegetated. The source of the light-toned deposits is not evident. Surface runoff from the LFM flows west into D2S and D2N located east of West Cheatham Lane.



INTERPRETATION CODE

—	SITE BOUNDARY
xxxxxx	FENCE
←	DRAINAGE
→	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+	RAILWAY
	BERM/DIKE
⊖	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 9. Rollins Environmental Services (LA), Inc. site, April 1, 1972. Approximate scale 1:4,800.



INTERPRETATION CODE

—	SITE BOUNDARY
xxxxxx	FENCE
←	DRAINAGE
→	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+	RAILWAY
	BERM/DIKE
⊖	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 9. Rollins Environmental Services (LA), Inc. site, April 1, 1972.
Approximate scale 1:4,800.

SEPTEMBER 21, 1975 (FIGURE 10)

The portion of the site occupied by the RES facility has been enlarged to better show details of features within the RES facility. Since 1972 Devil's Swamp Lake has been created in the southwest portion of the site. The lake is the result of the construction of the reinforced levee at the north end of the Baton Rouge Harbor Turning Basin forming a dam to natural drainage patterns. Only the western edge of Devil's Swamp Lake is covered on this photo enlargement. Devil's Swamp Lake now holds runoff that enters this portion of Devil's Swamp including the discharge from the RES facility via ditch D1. As a result of the construction at the levee, culvert CU3 is no longer evident and some drainage may now flow into the Baton Rouge Harbor rather than Devil's Swamp. The drainage ditches D1, D2N, and D2S, serving the RES facility remain operational. The small ditches, D3 and D4 noted within the LF area in 1972, are no longer discerned.

Within the CTA liquid is still noted in the WNB, ENB, AB, and within the group of adjacent lagoons. Dark-toned spillage/leakage is still observed within the secondary containment berm of the group of twenty vertical tanks. A sump appears to have been dug on the west side of this berm increasing the holding capacity of the secondary containment system. Additional tanks (not all annotated) have been installed at the PIA while the number of horizontal tanks in a group, compared to those noted on the 1972 photograph, has been reduced.

At the PIA a smoke plume remains visible over the incinerator (not annotated, obscured by smoke). Several open storage areas containing large accumulations of 55-gallon drums are observed along the west side of the PIA. Dark-toned stains (not all annotated) from possible spillage and/or leakage from these drums are visible and reveal poor housekeeping practices.

The basins at the BSTA appear to remain operational. An emission is noted near the north bank of the STB. Since 1972 an irregularly shaped truck wash* pond has been established south of the PIA. The Hy-Purle cell continues to contain sludge. Cell 301 and Cell 302 have merged into one large cell that holds a dark-toned liquid. Several tank trucks and tank trailers are parked

along the west side of the Hy-Purle cell. A group of probable 55-gallon drums and a dark-toned ground stain from spillage or leakage are observed along West Cheatham Lane.

The SLF has undergone additional earthmoving resulting in several cells being opened, all of which contain dark-toned liquid. The dark-toned mounded material observed at this location on the 1972 photo is absent. The large irregularly shaped Cell 408*, which holds a dark-toned liquid, has been excavated in this location. The open cells noted near the southeast corner of Cell 302 in the 1972 photograph appear to have been filled and closed. Dark-toned mounded material is noted throughout the SLF. To the south of this mound another cell containing a dark-toned liquid has been opened. South of Cell 408, two smaller cells (407* and 409*) have been opened. Cell 409 contains a dark-toned liquid and objects (not annotated), probable 55-gallon drums, floating on the surface of the liquid. The long shaped Cell 201/202* is observed along the south end of the SLF and contains a dark-toned liquid and objects, possible 55-gallon drums, floating on the surface of the liquid. All of the cells contain dark-toned liquid or sludge and a presence of bottom lining material could not be discerned. Surface runoff from the SLF appears likely to flow east into the adjacent ditch D2S.

Extensive earthmoving has occurred in the WLF; several new cells have been opened and some cells noted in 1972 are no longer evident. The containment berm around Cell 115* appears breached allowing leakage to flow west around Cell 118* and then south into ditch D1. All of the cells contain dark-toned liquid or sludge and a presence of bottom lining material could not be discerned. Spillage and or ground stains (not all annotated) are also observed adjacent to several of these cells indicating poor housekeeping practices.

No significant activity is noted within the LFM and the deposits of light-toned material and mounded material noted along the access roadway appear revegetated.



APRIL 19, 1978 (FIGURE 11)

The RES facility has been expanded since 1975 with the establishment of landfarm plots to the east of West Cheatham Road. The portion of the site occupied by the RES facility has been enlarged to better show the details of features at the RES facility. This photographic enlargement does not show three of the five landfarm plots created along the south side of the access road into the RES facility. All five landfarm plots are visible on the original 1978 photography.

Within the CTA liquid is still noted in the basins WNB, ENB, AB, and within the group of adjacent lagoons. Fourteen processing/storage vertical tanks are now discerned of the group of twenty tanks that were visible in 1975, revealing that six tanks have been removed. The sump pit to the west of these vertical tanks contains dark-toned spillage/leakage. The spillage/leakage within the secondary containment structure appears to have been directed into the sump pit. The group of thirteen horizontal storage tanks noted to the east of the vertical tanks have been removed.

Several probable tank trucks are observed along the west side of the PIA. A visible smoke plume over the incinerator (not annotated) indicates the incinerator remains operational. The open storage areas with 55-gallon drums observed along the west side of the PIA on the 1975 photograph, are no longer evident and appear to have been removed. The dark-toned ground stains noted in 1975 next to many of the drums are also no longer evident, suggesting improved housekeeping practices.

Within the BSTA a new drainage ditch which empties into ditch D1 has been dug near the southwest corner of the basin STB. Another clarifying tank has been installed between the basin ASB and the irregular-shaped truck wash pond. Two new cells (304*, 305*) containing liquid have been opened north of the Hy-Purle cell. The presence of bottom lining material could not be discerned within these cells. The Hy-purle cell continues to hold sludge and Cell 302 continues to hold a dark-toned liquid. Several probable tank trailers are observed along the west side of the Hy-Purle cell. The probable 55-gallon drums and a dark-toned ground stain noted along West Cheatham Lane on the 1975 photograph are not evident.

Within the SLF several cells observed in 1975, including Cell 408 that contained dark-toned liquid in 1975, have been filled and closed. Both dark-toned and light-toned mounded material is observed at these locations within the SLF.

Since 1975 a large landfarm area has been established on the eastern section of the RES facility. Five landfarm plots (Plot-1 through Plot-5) have been established along the south side of the access road that enters the RES facility from U.S. Route 61. Cleared areas and ground scars are observed along the north side of this access road but no landfarm activity is discerned. Within the landfarm area two basins (RW1* and RW2*) that now contain standing liquid and two clarifying tanks have been built to the north of LFM Plot-1. Drainage from the landfarm area appears to be captured by a system of ditches that empty into basins RW1 or RW2. The ditch D2S located west of the landfarm does not appear to receive runoff from the landfarm area.

Extensive earthmoving has occurred in the WLF. Several open cells noted as containing dark-toned liquid on the 1975 photograph have been filled and closed. Several cells including Cell 518*, which appears to contain solid waste and drums, and Cell 504*, which appears to contain sludge, have been opened. No bottom lining material could be discerned in any of the cells. Ground stains from spillage (not annotated) are also observed adjacent to several of these cells indicating poor housekeeping practices. Since 1975 the west landfill has been expanded to the northwest and new cells, including Cells 601*, 602*, 603*, and 604* have opened. Cell 601 contains dark-toned standing liquid or sludge and the other cells appear to be empty. No bottom lining material could be discerned in any of the cells.

Surface drainage from the west landfill flows west through drainage ditches and then south along the western perimeter of the RES facility. The western perimeter ditch trends south and then southwest around Cell 123B, before it empties into ditch D1 via a breach in a berm. The location of this breach is approximately the same location noted on the 1975 photograph where a ditch trended west around the former Cell 118 and then emptied into ditch D1.

MARCH 3, 1980 (FIGURE 12)

The limited resolution of the high altitude color infrared 1980 photographs precluded the discernment of smaller features previously noted on earlier dates of photography. The portion of the site occupied by the RES facility has been enlarged to better show details of features within the RES facility.

The CTA within the RES facility remains operational and liquid is still noted in the basins WNB, ENB, and AB. The group of six lagoons last observed on the 1978 photograph has been removed.

Within the PIA a smoke plume is observed over the incinerator (not annotated) revealing ongoing incineration activities. Another building has been constructed along the western portion of the PIA.

The BSTA remains operational. Two additional liquid holding cells have been opened along the north side of the Hy-Purle cell. Cell 304/305 appears to have been merged into one cell. The Hy-Purle cell appears to hold a dark-toned liquid as does Cell 301. Cell 302 appears to hold a lighter-toned liquid. Probable tank trailers are still observed along the west side of the Hy-Purle cell (not annotated).

Within the SLF earthmoving activity is evident. Cell 408 now appears to contain liquid. A deposit of light-toned mounded material is observed at the south end of this landfill area.

The LFM now contains nine landfarm plots (Plot 1 through Plot 9) situated along both sides of the access road into the RES facility. Drainage within the landfarm continues to be captured via a system of drainage ditches that flow into basins RW1 and RW2. A small basin, containing liquid, has been dug north of basin RW2 and appears to capture runoff leaving the northern LFM plots.

Since 1978 several cells within the WLF, including Cell 504 and Cell 518 noted on the 1978 photograph, have been filled and closed. A large mound of light-toned material has been deposited southwest of Cell 510. Several new

cells including Cells 607*, 608*, 609*, 611*, 718* and 719* have been opened. Most cells contain liquid or sludge; however, Cell 718* and Cell 719* appear to contain dark-toned, probable, solid material. No bottom lining material can be discerned in any of the cells.

Within the WLF surface runoff flows through a drainage ditch west and then south along the western perimeter. The western perimeter ditch trends south and then southwest around Cell 123* before it empties into ditch D1 via a breach in the south perimeter berm. The location of this breach remains at the same approximate location noted on the 1975 and 1978 photographs.

A new drainage ditch (D5) has been dug across the south perimeter of the site. Drainage ditch D5 appears to transport runoff and discharges from the offsite chemical facility located south of J. Theron Brown Road into Devil's Swamp Lake.



INTERPRETATION CODE

—	SITE BOUNDARY
xxxxxx	FENCE
←	DRAINAGE
→	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+	RAILWAY
	BERM/DIKE
()	EXCAVATION/PIT (EXTENSIVE)
()	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 12. Devil's Swamp Lake area and RES site, March 3, 1980.
Approximate scale 1:7,525.



INTERPRETATION CODE

—	SITE BOUNDARY
xxxxxx	FENCE
←	DRAINAGE
→	FLOW
===	VEHICLE ACCESS
---	TRAIL
++++	RAILWAY
	BERM/DIKE
⊖	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 12. Devil's Swamp Lake area and RES site, March 3, 1980. Approximate scale 1:7,525.

JANUARY 27, 1982 (FIGURE 13)

Construction is noted at the CTA section of the RES facility. The two basins WNB and ENB have been filled and leveled. Ten tanks remain in the group of vertical tanks, four having been removed since 1980. The sump pit is still visible to the west of these tanks, but the acid basin (not annotated) formerly west of these vertical tanks has been filled and closed. Two other vertical tanks have been installed to the south in the PIA. Numerous vehicles are parked on the northeast side of the CTA. Since 1980 large mounds of spoil have been deposited north and northwest of the CTA.

Incineration operations within the PIA are uncertain because a smoke plume is not discerned over the incinerator (not annotated). An accumulation of boxes or crates is noted along the west side of the PIA.

The BSTA remains operational and the basins STB, SCB, ASB, and clarifying tanks (not annotated) appear functional. Since 1980 a large basin (RW4) has been excavated along the north side of the STB. This new basin appears to be empty and a bottom lining material could not be discerned. No tank trucks or tank trailers are discerned along the west side of the Hy-Purle cell. The Hy-Purle cell appears to be dry and may no longer be in service. Other cells (not all annotated), including Cells 301, 302, 304/305, still contain liquid. Two aeration plumes (not annotated) are now visible within Cell 302.

Within the SLF, Cell 408 noted on the 1980 photograph, has been closed. The SLF appears to have been filled, graded and landfill operations ceased at this location. The former SLF will be annotated as a reference location but will no longer be discussed on subsequent dates of photography.

The LFM remains operational. A large liquid filled basin (RW3) has been excavated north of basin RW2 and subsumed the small basin noted on the 1980 photograph in this location. A ground scar and excavation are noted in the northern portion of LFM Plot 6.

Earthmoving has occurred in the WLF with the excavation of two very large pits (Basin RW5* and Cell 717*). Several open cells, including Cells 607, 608, 609 noted on the 1980 photograph, are absent and have been subsumed by this new

earthmoving activity. Both light- and dark-toned dry material (not annotated) is visible at the bottom of Cell 717. A small amount of standing liquid is observed within RW5. No bottom lining material could be discerned in either basin RW5 or Cell 717. Several cells including Cells 509, 510, 601, 602, 603, and 604 are still visible and contain liquid.

Surface drainage from the northern portion of the WLF appears to flow into Cell 717. Surface drainage from the southern portion of the WLF continues to trend west and then south along the western perimeter to eventually empty into ditch D1.



INTERPRETATION CODE

—	SITE BOUNDARY
xxxxxx	FENCE
←	DRAINAGE
→	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+ + +	RAILWAY
	BERM/DIKE
⊖	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RVV	RVV BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 13. Devil's Swamp Lake area and RES site, January 27, 1982. Approximate scale 1:7,325.

AUGUST 9, 1984 (FIGURE 14)

Three photographs are used to show the RES site and Devil's Swamp Lake: Figure 14 shows the central portion of the RES facility; Figure 15 shows the western side of the west landfill; and Figure 16 shows Devil's Swamp Lake.

The CTA remains operational and vertical storage tanks in this section of the RES facility appear unchanged since 1982. One additional vertical tank is noted in the CTA. The large mound of spoil observed north of the CTA has become revegetated.

Within the PIA incineration operations are uncertain because a smoke plume is not discerned over the incinerator (not annotated). Several tank trucks (TT) are noted within the PIA and there are several open areas where 55-gallon drums with dark-toned spillage are observed (not all annotated). These areas of stored drums and associated ground stains reveal poor housekeeping practices. Since 1982 basin RW5, located west of the PIA, has become operational and now contains liquid.

The BSTA appears operational. The STB, SCB, and ASB all contain liquid and appear to be functional. Three clarifying tanks are now noted next to the ASB. A new large Cell 902*, which contains liquid, has been created on the north side of the closed the Hy-Purle cell. The smaller liquid holding cells noted at this location on the 1982 photograph are absent, apparently being replaced by Cell 902. Cell 302 still contains liquid, but Cell 301 has been filled and closed.

A railroad spur serving the RES facility has been constructed. The railroad spur enters the facility from the east and transverses the LFM Plots 6, 7, 8, and 9. A sump pit (R/R Sump*) has been dug at this new railroad off-loading area. There are no significant changes noted at the LFM and the LFM Plots 1 through 6 now appear revegetated.

The drainage ditches D1, D2N, and D2S appear operational and transport surface runoff and discharges away from the RES facility. A weir* is discerned along the section of ditch D1 east of West Cheatham Lane. A second weir* is discerned along ditch D1 west of West Cheatham Lane.

Only the eastern portion of the WLF is covered on this photograph. See the following photograph (Figure 15) for further analysis.

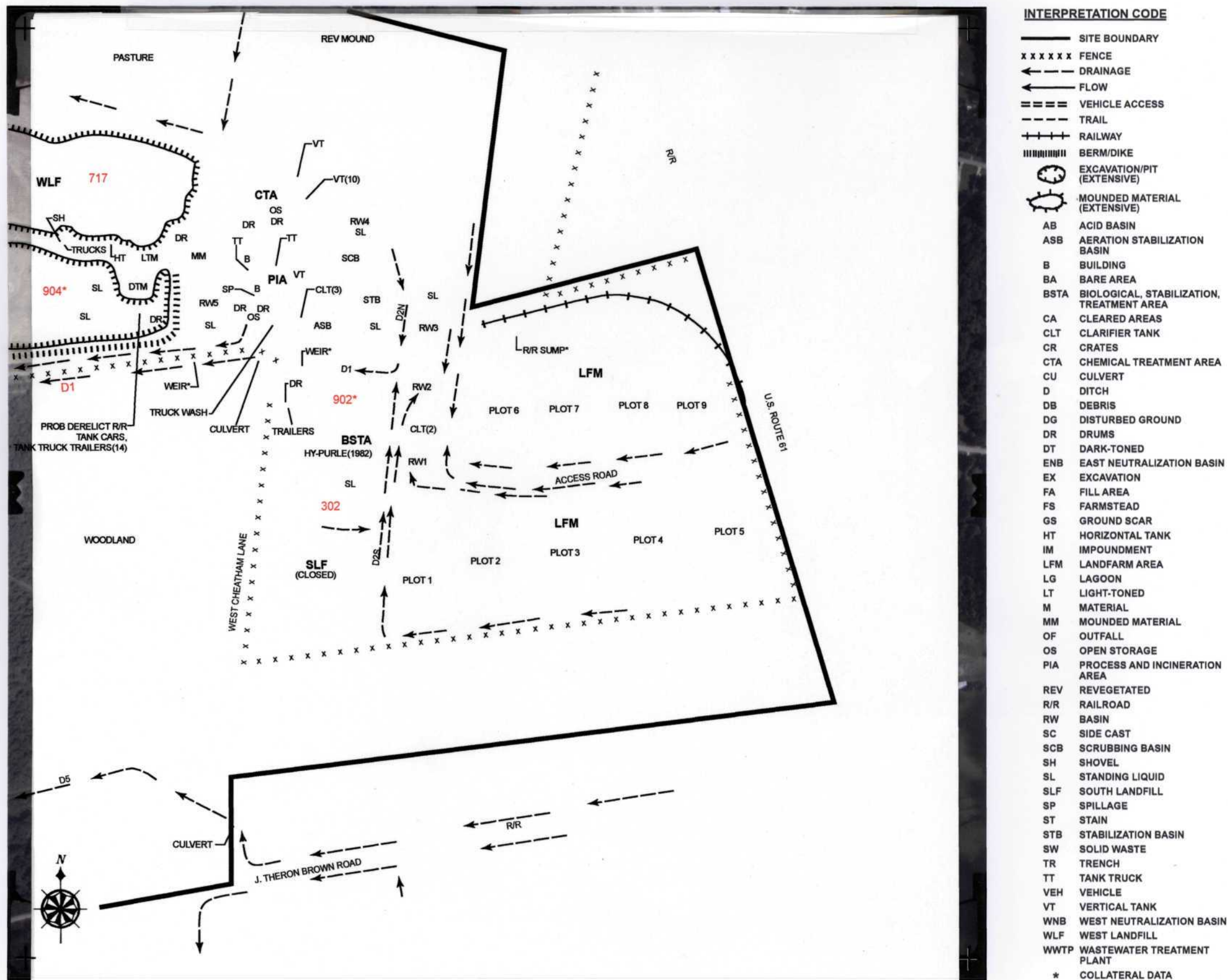


Figure 14. Devil's Swamp Lake area and RES site, August 9, 1984. Approximate scale 1:6,000.



INTERPRETATION CODE

—	SITE BOUNDARY
x x x x x	FENCE
—	DRAINAGE
←	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+ + + + +	RAILWAY
	BERM/DIKE
⊗	EXCAVATION/PIT (EXTENSIVE)
⊗	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 14. Devil's Swamp Lake area and RES site, August 9, 1984. Approximate scale 1:6,000.

AUGUST 9, 1984 (FIGURE 15)

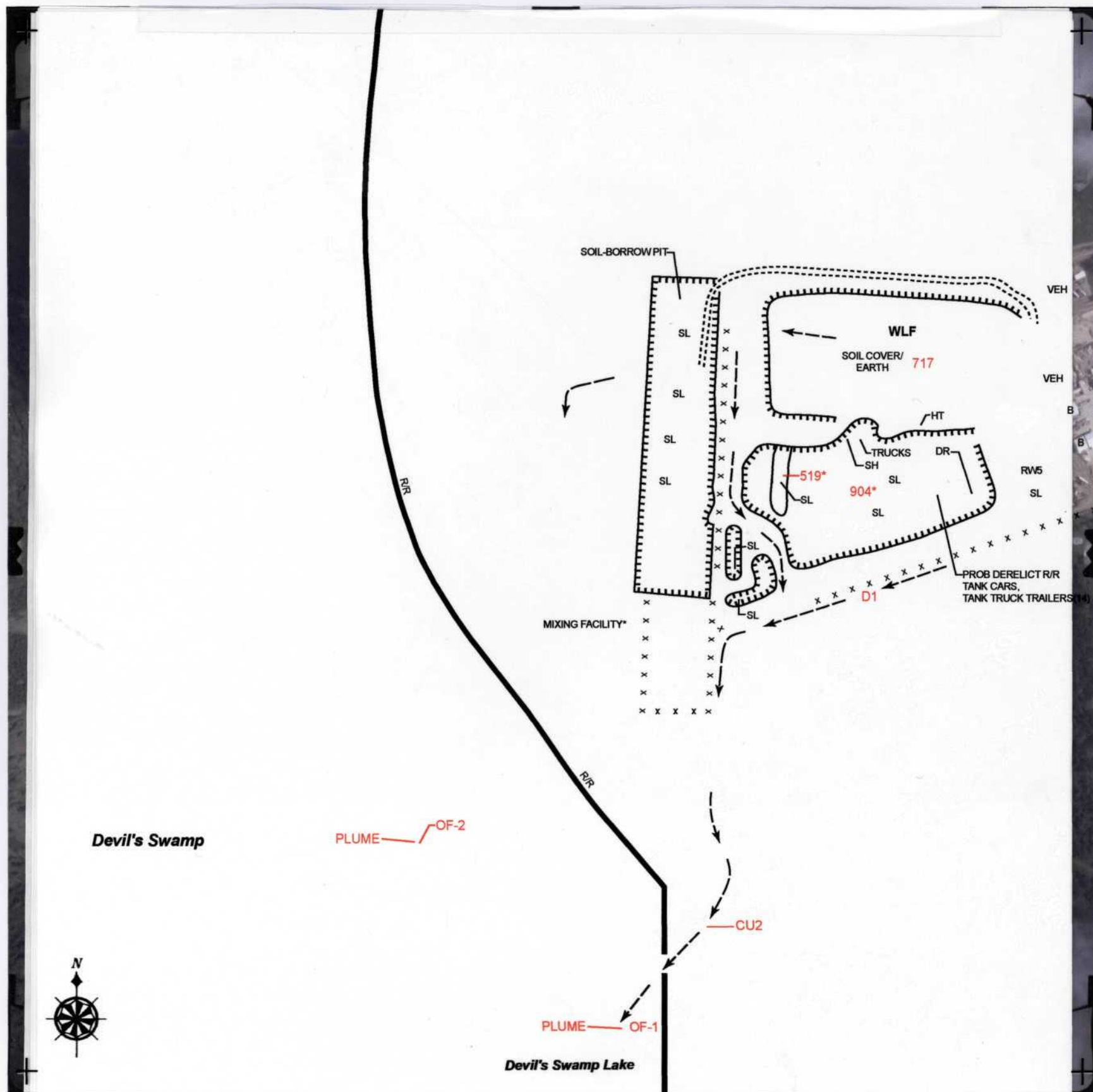
The entire WLF is covered on this photograph although several features were also annotated on Figure 14. Since 1982 there has been significant earthmoving activity within the WLF. Several cells are closed and other cells have been opened at the same locations but are evidently excavated to a greater depth. The liquid holding Cell 519* is in service but other cells, including cells 509 and 510 located in this area on the 1982 photograph, are no longer evident. Since 1982 the northern portion of Cell 717 has been partially filled with cover soil/earth. The large piles of spoil noted along the northern perimeter of WLF are no longer observed and have likely been used as a source of cover soil.

The large Cell 904* has been excavated to the south of Cell 717. This new cell does not have a discernable bottom lining material. Several cells observed on the 1982 photograph including Cells 601, 602, 603, and 604 have been closed and evidently subsumed by Cell 717 or 904. Trucks and earthmoving equipment are visible near the north rim of Cell 904. At least 14 partially buried, derelict, probable railroad tank cars, or derelict, probable, tank trailers are visible at the bottom of Cell 904. Both dark- and light-toned materials (not all annotated), in addition to stacks of 55-gallon drums, have been dumped into this cell. Collections of standing liquid are noted in the depressions outside the southwest corner of and at the bottom of Cell 904.

A Mixing Facility* containing one large building has been constructed near the southwest corner of the RES facility. A large probable soil-borrow pit has been excavated to the north of the mixing facility and along the west perimeter of the WLF. The absence of sidecast near this pit suggests it is the source of cover soil used in landfill operations. This probable soil-borrow pit contains light-toned standing liquid, probable accumulations of surface runoff.

Drainage from the northern portion of the WLF continues to trend west and then south, around Cell 904, and eventually empties into ditch D1. Surface drainage from the southern portion of the WLF generally flows into Cell 904.

Only the northern portion of Devil's Swamp Lake is covered on this photograph (see also Figure 16). Two outfall plumes (OF-1 and OF-2) are observed flowing into Devil's Swamp Lake southwest of the WLF and soil-borrow pit. The source of these outfalls likely came from the RES facility via culverts under the railroad along the west perimeter of the site.



INTERPRETATION CODE

—	SITE BOUNDARY
x x x x x	FENCE
←	DRAINAGE
→	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+ + + + +	RAILWAY
	BERM/DIKE
()	EXCAVATION/PIT (EXTENSIVE)
()	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 15. Devil's Swamp Lake area and RES site, August 9, 1984.
Approximate scale 1:6,000.

AUGUST 9, 1984 (FIGURE 16)

Devil's Swamp Lake is visible north of the levee protecting the Baton Rouge Harbor Turning Basin. The water in Devil's Swamp Lake appears to have a lighter color compared to the water within the Baton Rouge Harbor Turning Basin. The two light-colored outfall plumes (OF-1 and OF-2) flowing into Devil's Swamp Lake are visible on this photograph (see also Figure 15). The earthmoving activity at the soil-barrow pit has exposed widespread, bare soil along the western side of the WLF. This bare soil is a likely source of silt probably transported into Devil's Swamp Lake.

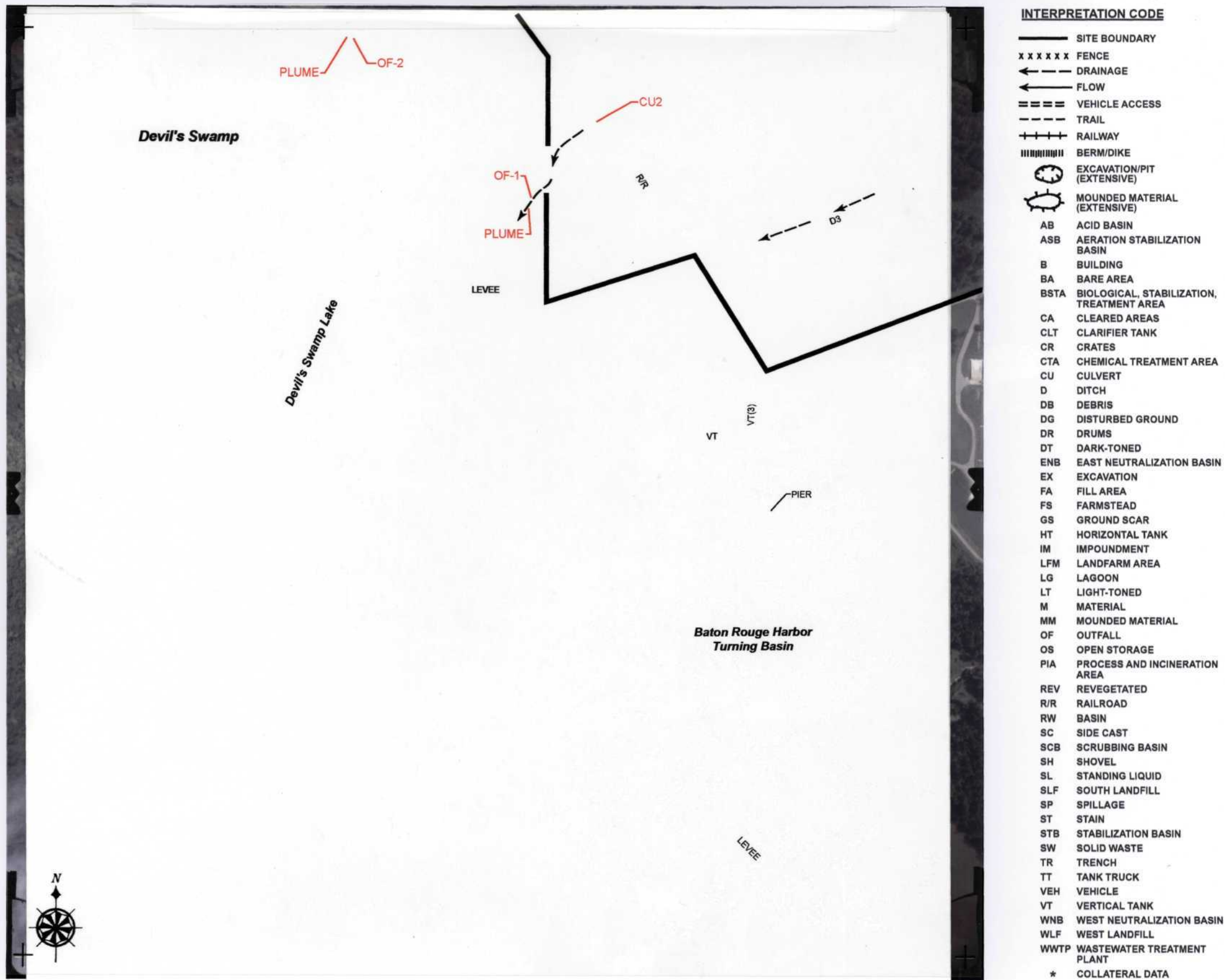
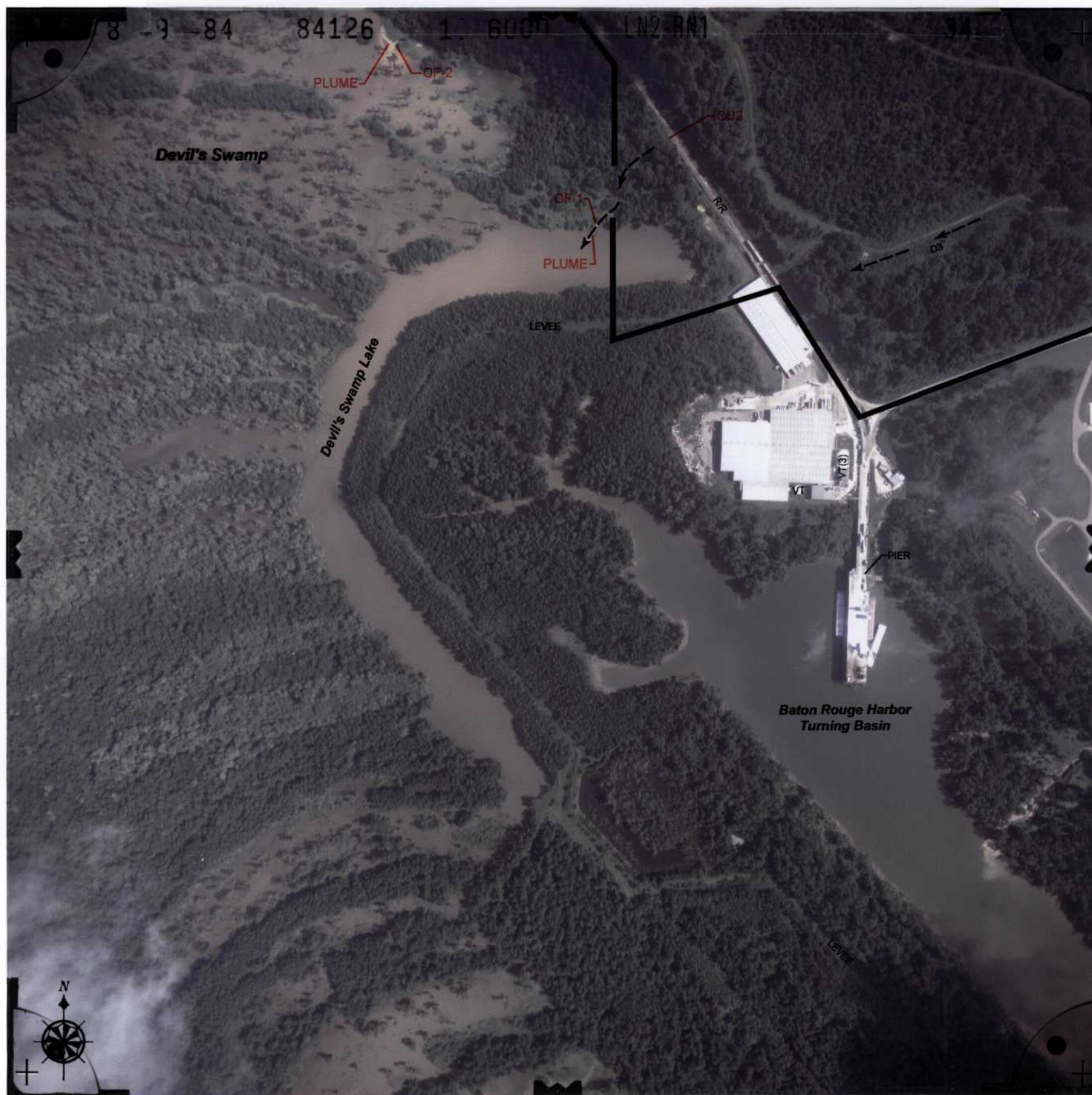


Figure 16. Devil's Swamp Lake area and RES site, August 9, 1984.
Approximate scale 1:6,000.



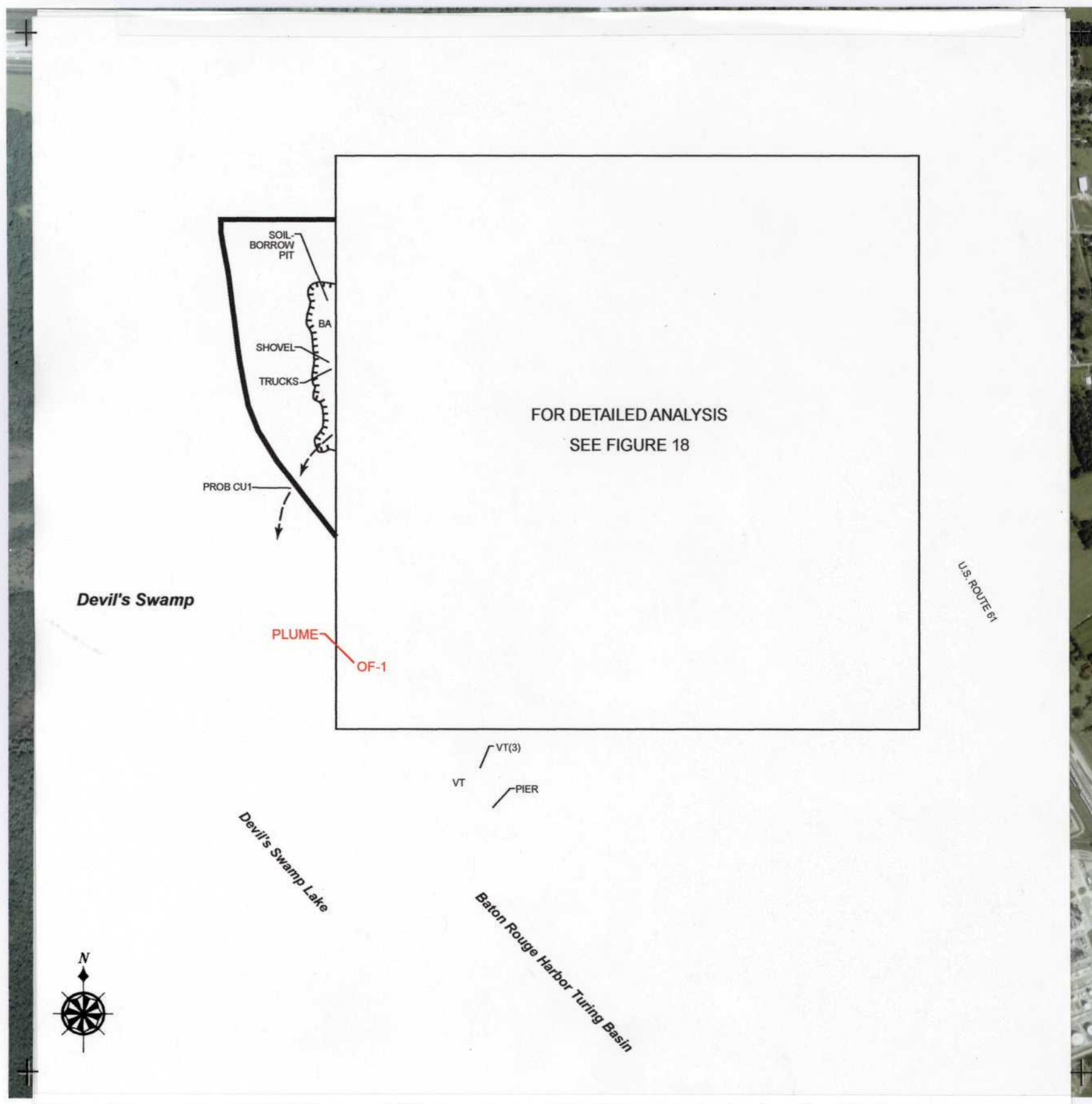
INTERPRETATION CODE

—	SITE BOUNDARY
xxxxxx	FENCE
←	DRAINAGE
→	FLOW
===	VEHICLE ACCESS
---	TRAIL
++++	RAILWAY
	BERM/DIKE
⊗	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 16. Devil's Swamp Lake area and RES site, August 9, 1984. Approximate scale 1:6,000.

APRIL 20, 1988 (FIGURE 17)

The soil-borrow pit north of the Mixing Facility has undergone more excavation to the west. Bare areas (BA, not all annotated) of exposed soil where the vegetation has been removed are widespread within this soil-borrow pit. A natural drainageway indicates surface runoff from this soil-borrow pit flows southwest and into nearby Devil's Swamp. The light-colored plume from OF-1 is discerned north of Devil's Swamp Lake (see also Figure 18). A portion of this photograph, shown by the annotated square, has been enlarged (Figure 18) to better show the details of features observed at the RES facility.



INTERPRETATION CODE

—	SITE BOUNDARY
x x x x x	FENCE
←	DRAINAGE
→	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+ + + + +	RAILWAY
	BERM/DIKE
⊖	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 17. Devil's Swamp Lake area and RES site, April 20, 1988.
Approximate scale 1:13,130.



INTERPRETATION CODE

—	SITE BOUNDARY
x x x x x	FENCE
←	DRAINAGE
←	FLOW
==	VEHICLE ACCESS
- - -	TRAIL
+ + + + +	RAILWAY
	BERM/DIKE
⊖	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 17. Devil's Swamp Lake area and RES site, April 20, 1988.
Approximate scale 1:13,130.

APRIL 20, 1988 (FIGURE 18)

Within the CTA additional buildings and enlarged parking areas have been constructed. Since 1984 no significant changes are noted within the open storage areas or at the storage tanks observed in this area. Additional tractor trailers and tank trucks (not annotated) are observed within the CTA and the PIA compared to those observed on the 1984 photograph. Earthmoving operations have removed the revegetated piles of spoil noted north of the CTA likely as a source of cover soil for the WLF.

A large building has been constructed along the west side of the PIA. The accumulations of drums and the associated spillage noted in 1984 have been removed and the housekeeping practices appear improved but ground stains (not annotated) are still visible. Incineration operations within the PIA continue to be uncertain because no smoke is discerned over the incinerator (not annotated).

The BSTA appears operational, the STB has been reduced in size, and a large vertical tank has been built northeast of the STB. The southern portion of STB has been filled and leveled and this area is the construction site of the new wastewater treatment plant* (WWTP*). Three new clarifying tanks have been built along the north side of ditch D1, east of West Cheatham Lane. The circular shaped foundations and excavations (not annotated) of probable processing structures under construction, are also observed.

The LFM appears revegetated and no longer operational. A small area of disturbed ground is noted at the southeast corner of the revegetated LFM Plot 5. A building, truck parking area, and open storage area containing possible crates have been established south of basin RW1 on former LFM Plot 1. Several parked tractor trailers are observed at this new location.

The railroad spur and off-loading facility on the north portion of former LFM Plot 6 remains operational. The sump pit at this railroad spur contains a dark-toned standing liquid.

The Sussex facility* has been constructed north of the WLF. This facility only appears to have vehicle access via a roadway from the east.

Within the WLF active dumping is visible at Cell 717 and a large light-toned mound has been deposited. Since 1984 the eastern portion of Cell 904 has been filled and closed. Active dumping is noted in Cell 901* in the southwest portion of the WLF. Earthmoving equipment including shovels and trucks (not annotated) are observed at this location. This mound contains both light- and dark-toned material, possible crates and/or debris causing the mound to appear grey in tone. Since 1984 Cell 519 and two nearby pits have been closed.

The surface drainage within the WLF has been altered since 1984. A series of ditches have been dug along the northwest portion of the RES facility perimeter. Liquid filled ditches are observed along the north, west, and south edges of the large mound at Cell 717. Pockets of standing liquid are visible along the southwest face of this mound. The termini of these ditches are not discerned. However, the ditch along the south edge of the mound appears to flow west and may discharge into ditch D1.

Within the soil-borrow pit west of the WLF earthmoving equipment including shovels (SH) and trucks and a system of unpaved trails are discerned. Accumulations of light-toned standing liquid are observed within the soil-borrow pit.

A light-colored plume of outfall OF-1 entering Devil's Swamp Lake remains visible.



INTERPRETATION CODE

—	SITE BOUNDARY
XXXXXX	FENCE
←	DRAINAGE
→	FLOW
===	VEHICLE ACCESS
---	TRAIL
++++	RAILWAY
	BERM/DIKE
⊖	EXCAVATION/PIT (EXTENSIVE)
⊕	MOUNDED MATERIAL (EXTENSIVE)
AB	ACID BASIN
ASB	AERATION STABILIZATION BASIN
B	BUILDING
BA	BARE AREA
BSTA	BIOLOGICAL, STABILIZATION, TREATMENT AREA
CA	CLEARED AREAS
CLT	CLARIFIER TANK
CR	CRATES
CTA	CHEMICAL TREATMENT AREA
CU	CULVERT
D	DITCH
DB	DEBRIS
DG	DISTURBED GROUND
DR	DRUMS
DT	DARK-TONED
ENB	EAST NEUTRALIZATION BASIN
EX	EXCAVATION
FA	FILL AREA
FS	FARMSTEAD
GS	GROUND SCAR
HT	HORIZONTAL TANK
IM	IMPOUNDMENT
LFM	LANDFARM AREA
LG	LAGOON
LT	LIGHT-TONED
M	MATERIAL
MM	MOUNDED MATERIAL
OF	OUTFALL
OS	OPEN STORAGE
PIA	PROCESS AND INCINERATION AREA
REV	REVEGETATED
R/R	RAILROAD
RW	BASIN
SC	SIDE CAST
SCB	SCRUBBING BASIN
SH	SHOVEL
SL	STANDING LIQUID
SLF	SOUTH LANDFILL
SP	SPILLAGE
ST	STAIN
STB	STABILIZATION BASIN
SW	SOLID WASTE
TR	TRENCH
TT	TANK TRUCK
VEH	VEHICLE
VT	VERTICAL TANK
WNB	WEST NEUTRALIZATION BASIN
WLF	WEST LANDFILL
WWTP	WASTEWATER TREATMENT PLANT
*	COLLATERAL DATA

Figure 18. Devil's Swamp Lake area and RES site, April 20, 1988.
Approximate scale 1:7,140.

GLOSSARY

Access Road - A paved or unpaved route of vehicular access.

Berm/Dike - An embankment of either natural or man-made materials that impounds liquids, solids or other materials, or controls flood waters.

Borrow Pit - An excavated area where soil, sand, or gravel has been dug up for use elsewhere.

Building (B) - A relatively permanent, essentially boxlike construction having a roof.

Clarifier - A settling tank used in wastewater treatment.

Cleared Area (CA) - An area from which man has removed trees, shrubs, or other natural vegetative cover.

Dark- (DT), Medium- (MT), or Light-Toned (LT) - Tones of features in question are compared with the darkest and lightest tones of gray (if using B&W photography) on the print.

Debris (DB) - The remains of anything that can be identified as being broken down, destroyed, demolished, or dismantled.

Disturbed Ground (DG) - A rough area where the ground surface has been dug up or overturned.

Drums (DR) - Metal cylinders used for the storage, transportation, or disposal of materials.

Excavation Area (EX) - An area where earth or other material is being removed in order to alter the ground level (e.g., building construction).

Fill Area (FA) - An area where material is being deposited to fill a depression; or area where materials have been added, altering the elevation of the ground surface.

Ground Scar (GS) - An area of bare soil, apparently the result of human activity.

Impoundment (IM) - A liquid containment area that appears to be related to activity on a site but does not appear to be used for waste storage, disposal and/or treatment.

Lagoon (LG) - A liquid containment area that is apparently used for waste storage, disposal and/or treatment. A lined lagoon has an artificial barrier or liner to prevent migration of waste material into the soil.

Landfarm (LFM) - Agricultural setting where waste material is applied to, or incorporated into the soil. This is sometimes used as a method of waste disposal/treatment. It also includes the use of wastes as fertilizer or soil conditioner.

Landfill (LF) - A disposal facility which intermittently employs a cover material.

Material (M) - Raw or waste materials on or in the vicinity of the site.

Mounded Material (MM) - Piles of raw or waste materials on or in the vicinity of the site.

Open Storage Area (OS) - An area of open-air (outdoor) storage of containerized, raw or waste materials, within industrial or manufacturing sites.

Outfall (OF) - The place where an effluent is discharged into the environment.

Plume - The detectable emission from an outfall or smokestack.

Solid Waste (SW) - Any garbage, refuse, or sludge from a waste treatment, water supply treatment plant, or air pollution control facility, and other discarded material, including solid or semi-solid material resulting from industrial, commercial, mining, and agricultural operations, and from community activities; does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges.

Spillage (SP) - Any unplanned discharge or release of solid, semi-solid, or liquid material (aka liquid discharge)

Stain (ST) - A residue or discoloration resulting from a spill, discharge, or removed/dispersed materials.

Standing Liquid (SL) - A small, shallow, temporary collection of liquid, not necessarily waste. Not to include liquid contained in impoundments, trenches, pits, etc.

Tanks - Vertical tanks (VT), horizontal tanks (HT), pressure tanks (PT), tank farms, and solid waste management units. A large receptacle, container, or structure for holding liquid or gas.

Trench (TR) - A long, narrow excavation unrelated to drainage.

Wastewater Treatment Plant (WWTP) - A treatment plant directly associated with a waste generating facility.

REFERENCES

MAPS

Source ^a	Figure	Name	Scale	Date
USGS	1	United States	1:2,500,000	1972
USGS	2	Scotlandville, LA	1:24,000	1980

COLLATERAL INFORMATION

Figure 3. Rollins Environmental Services, Area Plot Plan 1979, Figure A-5, RFI-Task 1 5/30/90, page 1453 from 161472.pdf (EPA, 2004).

Figure 4. Figure A-18 RFI Task 1 Rollins RES, May 30, 1990 (EPA, 2004).

Figure 5. Figure B-1, Devil's Swamp, Rollins Outfall Ditch, PRC Environmental Management from RCRA Facility Investigation Report, Figure 4.3-1 (ref 10) Aero Data Corporation ADC-92024-0762 (EPA, 2004).

Figure 6. Rollins Environmental Services, Inc., RES (LA) Inc. Facility as of February 1992. Drainage Run-Off Plan and Diversion Points. Figure 2.3.1-1.1 EPA Devil's Swamp Lake Baton Rouge, Louisiana (pdf file) July 15, 2004 (EPA, 2004). Surface Water Bodies and Drainage Patterns Figure, ENCOR, Project 90c100T8, 6/3/91 (EPA, 2004).

Rollins Environmental Services, Site Plan NPDES Permit Application Figure 6/23/89 EPA-155732, (EPA, 2004).

Report to the Environmental Control Commission, Rollins Environmental Services, Inc., Office of Environmental Affairs, Louisiana Department of Natural Resources, April 22, 1980 (EPA, 2004).

EPA. 2004. Collateral data and site map supplied by EPA Region 6 as attachment to Remote Sensing Services Request Form.

LMS (Lockheed Martin Services). 2003. Master Quality Assurance Project Plan. Prepared for EPA Environmental Sciences Division. Contract 68-D-00-267. Las Vegas, Nevada.

AERIAL PHOTOGRAPHS

Photo source ^a	Figure ^b	Date of acquisition	Original scale	Film type ^c	Mission I.D.	Source frame #	EPIC ID #
USGS	-	02-11-62	1:24,000	B&W	GS-VALI	169	93707
USGS	-	10-28-67	1:20,000	B&W	CQF	252-254	93828-93830
UNK(EPA)	7	09-27-68	1:40,000	B&W	6286-9	143	39691
NOS	8	11-24-70	1:58,000	B&W	UNK	439	94212
UNK(EPA)	-	02-05-72	1:24,000	B&W	22121	22	63450
NOS	9	04-01-72	1:30,000	B&W	UNK	3642	63453
GCA	10	09-21-75	1:12,000	B&W	UTP	5-93	93819
EPA	-	10-09-78	1:65,000	CIR	02690	78-222:3122	-
USDA	11	04-19-78	1:40,000	CIR	22033	146	63473
GCA	-	03-25-79	1:24,000	B&W	UNK	17	93855
EPA	12	03-03-80	1:58,000	CIR	UNK	80-146:0013	-
EPA	-	05-27-81	1:6,000	CC	8169	81-162:17	-
USGS	13	01-27-82	1:60,000	CIR	HAP-81	38	30788
EPA	-	09-28-83	1:24,000	CC	83045	83-210:353	-
EPA	14-16	08-09-84	1:8,000	CC	84126	84-345:22, 32,34	-
EPA	17,18	04-20-88	1:26,400	CC	88759	88-143:50	-

^aEPA U.S. Environmental Protection Agency, Environmental Sciences Division, Las Vegas, Nevada (UNK-Original source is unknown; EPA Archive film)

GCA Gulf Coast Aerial, Baton Rouge, Louisiana

NOS National Ocean Service, Coast and Geodetic Survey, Washington, D.C.

USDA U.S. Department of Agriculture, Salt lake City, Utah

USGS U.S. Department of Interior, U.S. Geological Survey, Washington, D.C.

^bPhotographs listed with no figure number were analyzed but not placed in this report.

^cB&W Black-and-white

CIR Color infrared

CC Conventional Color